

Application No.: 09/864,055
Docket No.: JIAN0094-C1-CIP

In The Claims:

Claim 1. (original) A bonding pad structure, comprising:

a copper layer;

a passivation layer over the copper layer having a pad window to expose a portion of the copper layer;

a barrier layer conformal to a profile of the pad window; and

an aluminum pad located in the pad window.

Claim 2. (original) The bonding pad structure of claim 1, wherein the barrier layer is selected from the group consisting of aluminum (Al), tantalum (Ta), tantalum nitride (Ta₃N₅), titanium nitride (TiN), and tungsten nitride (WN), mixtures thereof, combinations thereof and alloys thereof.

Claim 3. (original) The bonding pad structure of claim 1, wherein the aluminum pad is an aluminum, aluminum alloy or aluminum dominated layer.

Claim 4. (previously amended) A bonding pad structure, comprising:

a copper layer;

a passivation layer over the copper layer having a pad window to expose a portion of the copper layer;

a barrier layer conformal to a profile of the pad window and extended along a portion of the surface of the passivation layer from the pad window; and

an aluminum pad located over the barrier layer.

Application No.: 09/864,055
Docket No.: JIAN0094-C1-CIP

Claim 5. (original). The bonding pad structure of claim 4, wherein the barrier layer is selected from the group consisting of aluminum (Al), tantalum (Ta), tantalum nitride (Ta₃N₅), titanium nitride (TiN), and tungsten nitride (WN), mixtures thereof, combinations thereof and alloys thereof.

Claim 6. (original). The bonding pad structure of claim 4, wherein the aluminum pad is an aluminum, aluminum alloy or aluminum dominated layer.

Claim 25. (Newly Added) The bonding pad structure of claim 1, wherein the aluminum pad located in the pad window is connected with a bonding wire.

Claim 26. (Newly Added) The bonding pad structure of claim 1, wherein the aluminum pad located in the pad window is connected with a solder ball.